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SENATE BILL

No. 1505

Introduced by Senator Lowenthal

(Coauthors: Assembly Members Lieu and Pavley)

February 23, 2006

An act to add Sections 43868 and 43869 to the Health and Safety Code, relating to fuel.

LEGISLATIVE COUNSEL'S DIGEST

SB 1505, as amended, Lowenthal. Fuel: hydrogen alternative fuel.

Existing law imposes various limitations on emissions of air contaminants for the control of air pollution from vehicular and nonvehicular sources. Existing law generally designates the State Air Resources Board as the state agency with the primary responsibility for the control of vehicular air pollution. Under existing law, the state board, in conjunction with other state agencies, is required to develop and adopt a state plan to increase the use of alternative fuels, as defined. Existing law also requires retail sellers, as defined, to procure a specified percentage of electricity generated by eligible renewable energy resources, as defined, called a renewables portfolio standard.

This bill would declare the Legislature's intent that, when the California Hydrogen Highway Blueprint Plan is implemented, it be done in a clean and environmentally responsible and advantageous manner. The bill would require the state board to adopt regulations that will ensure that state funding for the production and use of hydrogen fuel, as described in the California Hydrogen Highway Blueprint Plan, contributes to the reduction of greenhouse gas, criteria air pollutant, and toxic air contaminant emissions, *and would require these regulations to meet minimum requirements*, as specified.

The bill would also require the state board to adopt regulations that are to apply in any year immediately following a 12-month period in which the mass of hydrogen fuel dispensed in California for transportation purposes exceeds ~~2,500~~ 3,500 metric tons, to ensure that the production and direct use of hydrogen fuels for motor vehicles in the state, including, but not limited to, any hydrogen highway network that is developed pursuant to the California Hydrogen Highway Blueprint Plan, ~~contribute~~ *contributes* to a reduced dependence on petroleum, as well as reductions in greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions, *and would require these regulations to meet minimum requirements*, as specified. The bill would authorize the state board to increase the ~~2,500-metric-ton~~ 3,500-metric-ton threshold, as specified. The bill would require the California Environmental Protection Agency's Environmental Justice Advisory Committee to meet to discuss the production and distribution of hydrogen fuel in the state, *as specified*. The bill would require the agency secretary, in consultation with the state board, to recommend to the Legislature and the Governor, on or before ~~July~~ January 1, 2010, incentives that could be offered to businesses ~~and consumers~~ within the hydrogen fuel industry *and consumers* to spur the development of clean sources of hydrogen fuel.

The bill would require these regulations to require providers of hydrogen fuel for transportation in the state to report to the state board the annual mass of hydrogen fuel dispensed and the method by which the dispensed hydrogen was produced and delivered, as specified.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

1 SECTION 1. The Legislature finds and declares all of the
2 following:

3 (a) A network of hydrogen production and distribution
4 facilities for fueling vehicles is developing in California. *It is the*
5 *state's goal to promote this development of hydrogen*
6 *infrastructure, in part, through demonstration projects.*

7 (b) The California Environmental Protection Agency has
8 produced the California Hydrogen Highway Blueprint Plan as
9 part of the state's efforts to diversify its sources of transportation
10 fuels available to California motorists by expanding the network
11 of hydrogen fueling stations and availability of
12 hydrogen-powered vehicles in the state.

13 (c) The California Hydrogen Highway Blueprint Plan
14 establishes initial goals for the greenhouse gas emissions and
15 renewable energy content of hydrogen produced for use in the
16 hydrogen highway network.

17 (d) The production of hydrogen fuels for use in vehicles, when
18 made from renewable sources of energy, emits virtually zero net
19 greenhouse gases into the atmosphere.

20 (e) The use of hydrogen fuel in motor vehicles can reduce or,
21 when used in a fuel cell vehicle, virtually eliminate tailpipe
22 emissions of criteria pollutants.

23 (f) Hydrogen fueling stations can reduce onsite evaporative
24 emissions when compared with today's gasoline fueling stations.

25 (g) The widespread use of hydrogen fuels in transportation can
26 reduce California's dependence on petroleum-based fuels, and
27 help enhance our nation's energy security.

28 (h) Moving toward a hydrogen-based economy with an
29 emphasis on hydrogen fuel production from clean, renewable
30 sources could create thousands of new clean manufacturing and
31 technology jobs for California residents.

32 (i) Natural gas, while still an emitter of heat-trapping
33 greenhouse gases, is cleaner than other fossil fuels, and therefore
34 is an important part of a transitional strategy to a clean hydrogen
35 fuel economy.

36 (j) A hydrogen highway network in the state should produce
37 hydrogen fuel from clean, renewable sources and reduce

1 greenhouse gases and other pollutants compared to
2 petroleum-based fuels.

3 (k) Hydrogen fuel and fuel cell vehicles are a central part of
4 achieving the state's Zero Emission Vehicle Program.

5 (l) According to the California Hydrogen Highway Blueprint
6 Plan, the absence of specific goals for reducing emissions and
7 using renewable resources to produce hydrogen fuel might
8 actually increase greenhouse gas and particulate matter emissions
9 relative to petroleum fueled vehicles.

10 (m) Hydrogen produced from natural gas or from clean
11 electricity and used in hydrogen *or hydrogen blend* vehicles will
12 reduce the consumption of fossil fuels compared to gasoline
13 vehicles.

14 SEC. 2. Section 43868 is added to the Health and Safety
15 Code, to read:

16 43868. (a) It is the intent of the Legislature that, when the
17 California Hydrogen Highway Blueprint Plan is implemented, it
18 be done in a clean and environmentally responsible and
19 advantageous manner.

20 (b) It is further the intent of the Legislature that the state board
21 work with other relevant state agencies on the production of
22 hydrogen, with an emphasis on hydrogen produced from
23 renewable resources, as part of a strategy to reduce the state's
24 dependence on petroleum, achieve the state's greenhouse gas
25 emission reduction targets, and improve air quality for the state's
26 residents.

27 (c) It is further the intent of the Legislature that the California
28 Environmental Protection Agency and the state board, as part of
29 the implementation of the California Hydrogen Highway
30 Blueprint Plan, include in their priorities the deployment of
31 hydrogen *or clean hydrogen blend* fueled transit buses.

32 (d) *It is further the intent of the Legislature that the state*
33 *board consider including in a future revision of the California*
34 *Hydrogen Highway Blueprint Plan a study to determine the*
35 *necessary steps to maximize the production of hydrogen fuel*
36 *made from eligible renewable resources.*

37 SEC. 3. Section 43869 is added to the Health and Safety
38 Code, to read:

43869. The state board shall, no later than July 1, 2008, develop and, after at least two public workshops, adopt hydrogen fuel regulations to ensure the following:

(a) That state funding for the production and use of hydrogen fuel, as described in the California Hydrogen Highway Blueprint Plan, contributes to the reduction of greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions. The regulations shall, at a minimum, do all of the following:

(1) Require that, on a statewide basis, well-to-wheel emissions of greenhouse gases for the average hydrogen powered vehicle fueled by hydrogen from fueling stations that receive state funds are at least 30 percent lower than emissions for the average new gasoline vehicle in California when measured on a per-mile basis.

(2) (A) Require that, on a statewide basis, no less than 33.3 percent of the hydrogen produced for, or dispensed by, fueling stations that receive state funds be made from eligible renewable energy resources as defined in subdivision (a) of Section 399.12 of the Public Utilities Code.

(B) *If the state board determines that there is insufficient availability of hydrogen fuel from eligible renewable resources to meet the 33.3 percent requirement of this paragraph, the state board may, after at least one public workshop and on a one-time basis, reduce the requirement by an amount, not to exceed 10 percentage points, that the state board determines is necessary to result in a renewable percentage requirement for hydrogen fuel that is achievable.*

(C) *If the executive officer of the state board determines that it is not feasible for a public transit operator to use hydrogen fuel made from eligible renewable resources, the executive officer may exempt the operator from the requirements of this paragraph for a period of not more than five years and may extend the exemption for up to five additional years.*

(3) Prohibit hydrogen fuel producers from counting as a renewable energy resource, pursuant to paragraph (2), any electricity produced from sources previously procured by a retail seller and verifiably counted by the retail seller towards meeting the renewables portfolio standard obligation, as required by

1 Article 16 (commencing with Section 399.11) of Chapter 2.3 of
2 Part 1 of Division 1 of the Public Utilities Code.

3 (4) Require that all hydrogen fuel dispensed from fueling
4 stations that receive state funds be generated in a manner so that
5 local well-to-tank emissions of nitrogen oxides plus reactive
6 organic gases are at least 50 percent lower than well-to-tank
7 emissions of the average motor gasoline sold in California when
8 measured on an energy equivalent basis.

9 (5) Require that well-to-tank emissions of relevant toxic air
10 contaminants for hydrogen fuel dispensed from fueling stations
11 that receive state funds be reduced to the maximum extent
12 feasible at each site when compared to well-to-tank emissions of
13 toxic air contaminants of the average motor gasoline fuel on an
14 energy-equivalent basis. In no case shall the toxic emissions be
15 greater than the emissions from gasoline on an energy equivalent
16 basis.

17 (6) Require that providers of hydrogen fuel for transportation
18 in the state report to the state board the annual mass of hydrogen
19 fuel dispensed and the method by which the dispensed hydrogen
20 was produced *and delivered*.

21 (7) *Authorize the state board, after at least one public*
22 *workshop, to grant authority to the executive officer of the state*
23 *board to exempt from this subdivision, for a period of no more*
24 *than five years, hydrogen dispensing facilities constructed for*
25 *small demonstration or temporary purposes. The exemption may*
26 *be extended on a case-by-case basis upon a finding that the*
27 *extension will not harm public health. The executive officer may*
28 *limit the total number of exemptions by geographic region,*
29 *including by air district, but the average annual mass of*
30 *hydrogen dispensed from exempted facilities shall not exceed 10*
31 *percent of the total mass of hydrogen fuel dispensed for*
32 *transportation purposes in the state.*

33 ~~(b) The regulations shall also require that~~ *That*, in any year
34 immediately following a 12-month period in which the mass of
35 hydrogen fuel dispensed for transportation purposes in California
36 exceeds ~~2,500~~ 3,500 metric tons, the production and direct use of
37 hydrogen fuels for motor vehicles in the state, including, but not
38 limited to, any hydrogen highway network that is developed
39 pursuant to the California Hydrogen Highway Blueprint Plan,
40 ~~shall contribute~~ *contributes* to a reduced dependence on

1 petroleum, as well as reductions in greenhouse gas emissions,
2 criteria air pollutant emissions, and toxic air contaminant
3 emissions. For the purpose of this subdivision, the regulations, at
4 a minimum, shall do all of the following:

5 (1) Require that, on a statewide basis, well-to-wheel emissions
6 of greenhouse gases for the average hydrogen powered vehicle in
7 California are at least 30 percent lower than emissions for the
8 average new gasoline vehicle in California when measured on a
9 per-mile basis.

10 (2) Require that, on a statewide basis, no less than 33.3 percent
11 of the hydrogen produced or dispensed in California for motor
12 vehicles be made from eligible renewable energy resources as
13 defined in subdivision (a) of Section 399.12 of the Public
14 Utilities Code.

15 (3) Prohibit hydrogen fuel producers from counting as a
16 renewable energy resource, for the purposes of paragraph (2),
17 any electricity produced from sources previously procured by a
18 retail seller and verifiably counted by the retail seller towards
19 meeting the requirements established by the California
20 Renewables Portfolio Standard Program, as set forth in Article
21 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1 of
22 Division 1 of the Public Utilities Code.

23 (4) Require that all hydrogen fuel dispensed in California for
24 motor vehicles be generated in a manner so that local
25 well-to-tank emissions of nitrogen oxides plus reactive organic
26 gases are at least 50 percent lower than well-to-tank emissions of
27 the average motor gasoline sold in California when measured on
28 an energy equivalent basis.

29 (5) Require that well-to-tank emissions of relevant toxic air
30 contaminants from hydrogen fuel produced or dispensed in
31 California be reduced to the maximum extent feasible at each site
32 when compared to well-to-tank emissions of toxic air
33 contaminants of the average motor gasoline fuel on an
34 energy-equivalent basis. In no case shall the toxic emissions from
35 hydrogen fuel be greater than the toxic emissions from gasoline
36 on an energy-equivalent basis.

37 ~~(6) Authorize the board, after at least one public workshop, to~~
38 ~~grant authority to the board's executive officer to exempt from~~
39 ~~this subdivision, for a period of no more than five years, small~~
40 ~~hydrogen dispensing facilities with a rated capacity of no more~~

1 ~~than 10 kilograms of hydrogen fuel per day. The exemption may~~
2 ~~be extended on a case-by-case basis by the executive officer~~
3 ~~upon a finding that the extension will not harm public health.~~
4 ~~Facilities that receive state funding shall not be eligible for this~~
5 ~~exemption.~~

6 *(6) Authorize the state board, after at least one public*
7 *workshop, to grant authority to the executive officer of the state*
8 *board to exempt from this subdivision, for a period of no more*
9 *than five years, hydrogen dispensing facilities that dispense an*
10 *average of no more than 100 kilograms of hydrogen fuel per*
11 *month. The exemption may be extended on a case-by-case basis*
12 *by the executive officer upon a finding that the extension will not*
13 *harm public health. The executive officer may limit the total*
14 *number of exemptions by geographic region, including by air*
15 *district, but the average annual mass of hydrogen dispensed*
16 *statewide from exempted facilities shall not exceed 10 percent of*
17 *the total mass of hydrogen fuel dispensed for transportation*
18 *purposes in the state.*

19 *(7) Authorize the state board, if it determines that reporting is*
20 *necessary to facilitate enforcement of the requirements of this*
21 *subdivision, to require that providers of hydrogen fuel for*
22 *transportation in the state report to the state board the annual*
23 *mass of hydrogen fuel dispensed and the method by which the*
24 *dispensed hydrogen was produced and delivered.*

25 (c) Notwithstanding subdivision (b), the state board may
26 increase the ~~2,500-metric-ton~~ 3,500-metric-ton threshold in
27 subdivision (b) by no more than ~~1000~~ 1,500 metric tons if at least
28 one of the following requirements is met:

29 (1) The ~~2,500-metric-ton~~ 3,500-metric-ton threshold is first
30 met prior to January 1, ~~2010~~ 2011.

31 (2) The state board determines that the ~~2,500-metric-ton~~
32 3,500-metric-ton threshold has been met primarily due to
33 hydrogen fuel consumed in heavy duty vehicles.

34 (3) The state board determines at a public hearing that
35 increasing the threshold would accelerate the deployment of
36 hydrogen fuel cell vehicles in the state.

37 (d) The state board, in consultation with other relevant
38 agencies as appropriate, shall review the renewable resource
39 requirements adopted pursuant to paragraphs (2) and (3) of
40 subdivision (a) and paragraphs (2) and (3) of subdivision (b)

1 every four years and shall increase the renewable resource
2 percentage requirements if it determines that it is technologically
3 feasible to do so and will not substantially hinder the
4 development of hydrogen as a transportation fuel in a manner
5 that is consistent with this section.

6 (e) The state board shall review the emission requirements
7 adopted pursuant to paragraphs (1), (4), and (5) of subdivision (a)
8 and paragraphs (1), (4), and (5) of subdivision (b) every four
9 years and shall strengthen the requirements if it determines it is
10 technologically feasible to do so and will not substantially hinder
11 the development of hydrogen as a transportation fuel in a manner
12 that is consistent with this section.

13 (f) The state board shall produce and periodically update a
14 handbook to inform and educate motor vehicle manufacturers,
15 hydrogen fuel producers, hydrogen service station operators, and
16 other interested parties on how to comply with the requirements
17 set forth in this section. This handbook shall be made available
18 on the agency's Internet Web site on or before July 1, 2009.

19 (g) The Secretary for Environmental Protection shall convene
20 the California Environmental Protection Agency's
21 Environmental Justice Advisory Committee at least once
22 annually to solicit the committee's comments on the production
23 and distribution of hydrogen fuel in the state.

24 (h) The Secretary for Environmental Protection, in
25 consultation with the state board, shall recommend to the
26 Legislature and the Governor, on or before ~~July~~ *January* 1, 2010,
27 incentives that could be offered to businesses ~~and consumers~~
28 within the hydrogen fuel industry *and consumers* to spur the
29 development of clean sources of hydrogen fuel.

30 (i) Unless the context requires otherwise, the definitions set
31 forth in this subdivision govern the construction of this section:

32 (1) "Well-to-tank emissions" means emissions resulting from
33 production of a fuel, including resource extraction, initial
34 processing, transport, fuel production, distribution and
35 marketing, and delivery into the fuel tank of a consumer vehicle.

36 (2) "Well-to-wheel emissions" means emissions resulting from
37 production of a fuel, including resource extraction, initial

- 1 processing, transport, fuel production, distribution and
- 2 marketing, and delivery and use in a consumer vehicle.

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